

CLAIMS

What is claimed is:

1. A method of power source management for a portable device, said method comprising the steps of:

5 a) calculating and storing an updated average terminal voltage for said power source by utilizing at least one periodic terminal voltage measurement;

b) detecting a momentary fluctuation present in said periodic terminal voltage measurement and excluding said measurement from said updated average terminal voltage;

10 c) comparing said updated average terminal voltage with at least one operational terminal voltage limit, and

d) terminating at least one system operating function when said average terminal voltage is outside said operational terminal voltage limit.

15 2. The method as recited in Claim 1 wherein said power source is composed of at least one cell that generates electrical energy.

3. The method as recited in Claim 1 wherein said portable device is a palmtop computer system.

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4. The method as recited in Claim 1 wherein said step a) comprises the step of:

a1) utilizing at least one measured source terminal voltage and at least one prior stored source terminal voltage to periodically determine and store an updated average terminal voltage for said power source.

5 5. The method as recited in Claim 1 wherein said step d) comprises the step of:

d1) terminating a first said at least one system operating function of transmitting a radio signal when said average terminal voltage is outside a first said one operational terminal voltage limit.

10 6. The method as recited in Claim 1 wherein said step d) comprises the step of:

d2) terminating a second said at least one system operating function of communication via infra-red (IR) when said average terminal voltage is outside a second said one operational terminal voltage limit.

15 7. The method as recited in Claim 1 wherein said step d) comprises the step of:

d3) terminating a third said at least one system operating function of illuminating information on a display screen when said average terminal voltage is outside a third said one operational terminal voltage limit.

8. The method as recited in Claim 1 wherein said step d) comprises the step of:

- d4) terminating a fourth said at least one system operating function of displaying information on a liquid crystal display (LCD) when said average 5 terminal voltage is outside a fourth one said operational terminal voltage limit.

9. The method as recited in Claim 1 wherein said step b) comprises the step of:

- b1) detecting said momentary fluctuation present in said periodic terminal 10 voltage measurement by comparing at least two consecutive said periodic terminal voltage measurements.

10. A method of power source management for a portable device, said method comprising the steps of:

- 15 a) terminating at least one system operating function when the updated average power source terminal voltage is outside at least one operational terminal voltage limit;
- b) determining said updated average power source terminal voltage by utilizing at least one periodically measured power source terminal voltage, and 20 c) eliminating said measured power source terminal voltage from said updated average power source terminal voltage whenever a momentary fluctuation is detected in said measured power source terminal voltage.

11. . The method as recited in Claim 10 wherein said step a) comprises
the step of:

- a1) terminating a first said at least one system operating function of
transmitting a radio signal when said average terminal voltage is outside a first
5 said one operational terminal voltage limit.

12. . The method as recited in Claim 10 wherein said step a) comprises
the step of:

- a2) terminating a second said at least one system operating function of
10 communication via infra-red (IR) when said average terminal voltage is outside a
second said one operational terminal voltage limit.

13. . The method as recited in Claim 10 wherein said step a) comprises
the step of:

- 15 a3) terminating a third said at least one system operating function of
illuminating information on a display screen when said average terminal voltage is
outside a third said one operational terminal voltage limit.

14. . The method as recited in Claim 10 wherein said step a) comprises
the step of:

- 20 a4) terminating a fourth said at least one system operating function of
displaying information on a liquid crystal display (LCD) when said average
terminal voltage is outside a fourth said one operational terminal voltage limit.

15. The method as recited in Claim 10 wherein said power source is composed of at least one cell that generates electrical energy.

16. The method as recited in Claim 10 wherein said portable device is a
5 palmtop computer system.

17. The method as recited in Claim 10 wherein said step b) comprises the step of:

b1) utilizing at least one measured source terminal voltage and at least one
10 prior stored source terminal voltage to periodically determine and store an updated average terminal voltage for said power source.

18. The method as recited in Claim 10 wherein said step c) comprises the step of:

15 c1) detecting said momentary fluctuation present in said periodic terminal voltage measurement by comparing at least two consecutive said periodic terminal voltage measurements.

19. A system for power source management of a portable device, said
20 system comprising:

a device having a database comprising stored operational terminal voltage limits, measured power source terminal voltage data, operational control

functions, and computational software, wherein said device is communicatively coupled to said portable device;

wherein said device is operable to periodically measure said power source terminal voltage and determine an updated average terminal voltage;

5 wherein said device is operational to detect a momentary fluctuation in said measured power source terminal voltage and exclude said measurement from said updated average terminal voltage determination, and

wherein said device is operable to compare said updated average terminal voltage with said stored operational terminal voltage limits and to activate said

10 stored operational control functions.

20. The system of Claim 19 wherein said portable device is a palmtop computer system.

15 21. The system of Claim 19 wherein said power source is composed of at least one cell that generates electrical energy.

22. The system of Claim 19 wherein said stored operational control functions include at least one command to terminate a system operation.